III. *An Account of an Experiment, made to aſcertain the Proportion of the Expanſion of the Liquor in the Thermometer, with Regard to the Degrees of Heat.* *By* Brook Taylor, *LL.D. R. S. S.*

IT has, I believe, been generally ſuppoſed, tho' not proved, that the Expanſion of the Liquor in the Thermometer, is proportional to the Increaſe of Heat. To determine this Matter with Certainty, I made the following Experiment.

I provided a good Linſeed Oil Thermometer, which I marked with ſmall Diviſions, not equal in Length, but equal according to the Capacity of the Tube in the ſeveral Parts of it, as all Thermometers ought to be graduated. I likewiſe provided two Veſſels of thin Tin, of the ſame Shape, and equal in Capacity, containing each about a Gallon. Then (obſerving in every Trial, that the Veſſels were cold, before the Water was put in them, as alſo that the Veſſel I meaſured the hot Water with, was well heated with it) I ſucceſſively fill'd the Veſſels with one, two, three, *&c.* Parts of hot boiling Water, and the reſt cold; and at laſt with all the Water boiling hot; and in every Caſe I immerſed the Thermometer into the Water, and obſerved to what Mark it roſe, making each Trial in both Veſſels for the greater Accuracy. And having firſt obſerved where the Thermometer ſtood in cold Water, I found that its riſing from that Mark, or the Expanſion of the Oil, was accurately proportional to the Quantity of hot Water in the Mixture, that is, to the Degree of Heat.